Timeline for Shuttering Outdoor Monitoring Stations at West Lake Landfill - (DRAFT)

1) EPA announces to public that outdoor monitoring will continue at one location in/around the Bridgeton area. **February – March 2015.**
2) EPA field staff moves equipment as stated above to comply with outdoor ambient air monitoring objectives. **February – March 2015**.
3) EPA prepares workplan for review and analyses of instantaneous air monitoring data. **February 2015.**
4) EPA issues AreaRae / VIPER instantaneous monitoring data narrative – **March 2015**
5) EPA demobilizes equipment from four of the monitoring location, but leaves TLD monitoring in place. **March – April 2015.**
6) EPA mobilizes all resources to Spanish Village Park to continue outdoor ambient air monitoring. **March – June 2015.**
7) EPA shutters outdoor ambient air monitoring unless/until the construction begins on the isolation barrier. **July 2015.**
8) EPA issues outdoor ambient air monitoring summary narrative (draft/final). **August – September 2015.**

Shutter Outdoor Ambient Air Monitoring – Gant Chart (draft)

Activity Timeline	**2014**									**2015**						
TASK	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**
Outdoor Air Monitoring	On-site	operational	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Data Reports (analytical)							X	X	X	X	X					
Air Monitoring Re-assessment Phase										X	X	X	X			
Data Reports (instantaneous)											X	X				X
Implement Strategy											X	X	X	X	X	X
SPV Monitoring Location												X	X	X	X	
Shutter Stations															X	X

Overview
EPA has implemented an outdoor air monitoring plan to sample for landfill constituents (COC's, RIM), in conjunction with the Responsible Party, prior to and during the construction of the isolation barrier being built to contain the RIM in OU-1, that could be impacted by the SSE. The goals and objectives are to document background conditions off the site prior to construction activities and to also monitor during construction activities to determine if any releases are occurring above health based benchmarks, and then to end the monitoring at the conclusion of the barrier installation.

EPA has 5 monitoring locations surrounding the site in addition to proposed RP on-site monitoring. The air monitoring activities include sampling for airborne radioactive particulates, radon gas, volatile organic compounds (VOCs), and will measure gamma radiation at each monitoring station location. Data collected from the monitoring activities will be used to assess and document the air quality along the boundaries of the site, and to evaluate the potential exposure of the nearby surrounding community to airborne contaminants prior to and during IB construction.

EPA / START is responsible for the air monitoring and sampling plan, air sample collection, analysis and summary of laboratory data, and preparation and submittal of documents and data transmittal reports to the EPA internal programs (i.e. ATSDR, AWMD, ENSV, etc.). START will assist EPA in the collection of air monitoring data and air samples as well as some data reduction and reporting tasks. Air monitoring activities will consist of screening surveys to measure air quality around the Site using remote sensing and direct-reading instruments.

Release or threatened release into the environment of a hazardous substance, or pollutant, or contaminant
The primary contaminant of concern at this Site is RIM which contain Barium Sulfates, Radium -226, Thorium -230, and the Uranium series daughters and progeny (i.e. U-234, U-235, U-236, U-238). As described above, EPA's Remedial Investigation of the Site has documented the presence radiological contamination in the wastes of the OU-1 Area 1 and 2 cells and the near-surface soils on these cells.

EPA current air sampling strategy, methodology and discussion
An air monitoring network was established around the Westlake site. Outdoor ambient air sampling and monitoring activities began in April 2014. Since the inception of this air monitoring sampling plan, additional consideration has taken place regarding the proposed construction start date of the isolation barrier, including potentially using an alternative barrier system design and technology on site. This has caused the proposed start date of isolation barrier construction to be delayed from the original projection of September 2014 to an estimated winter 2016 timeframe. Due to the extension of the barrier construction date, EPA amended its air monitoring and sampling network to approach to (1) incorporate Radiello® passive sampling devices (VOC's + H2S); and (2) modified its community perimeter monitoring approach to measure/monitor RIM at one location (RIM is the pollutant of concern expressed by the public, and MDNR does not have the capability to monitor or sample this exposure pathway).

Data review
The first round of analytical and instantaneous data has been reviewed by EPA (ATSDR, AWMD, SUPR, ENSV) and EPA-ERT staff. In addition, the analytical data has been compared with the historical data collected by Missouri Department of Natural Resources Air Program at the St. Louis National Air Toxics Trends Site (NATTS). To date, approximately nine (9) months of monitoring data has been collected which spans the entire summer and winter seasons.

- Our analysis of the radiological and VOC data from April 2014 to January 2015 found it to be consistent with normal outdoor background levels in the St. Louis metropolitan area.
- We have concluded the data we collected for H2S, CO and SO2 (instantaneous AreaRae monitoring systems) is not of sufficient quality for comparison with health-based criteria such as the National Ambient Air Quality Standards (NAAQS) due to uncertainties associated with the type of instruments and methodologies we used.
- The air monitoring and sampling system will be continued to provide quantitative metrics to decision-makers evaluating the effectiveness of an overall air monitoring strategy and program.

Recommendation
EPA has chosen to modify its outdoor ambient air monitoring stations. The modification will afford greater data comparability for the purpose of identification and apportionment of landfill emissions. In addition, the modification, will result in coverage to the most sensitive population.

- EPA modify its landfill air monitoring network to consist of one location, the existing station located in Spanish Village;
- Monitor for radiological parameters (i.e. RIM), the primary contaminants of concern at the West Lake;
- After one year, re-evaluate the need for further outdoor ambient air monitoring;
- MDNR continue in the lead of monitoring for H2S and VOCs at the Bridgeton Landfill (R7 will further explore with MDNR what support we may be able to provide from our ambient air monitoring program); and
- EPA will continue to review, monitor and provide oversight of the PRP's air monitoring system.

Contingency Operations (Emergency / Incident Response at the Westlake Landfill)
The purpose for emergency response is intended as a general guideline and may be deviated from, according to the type of incident and the objectives defined at the time of said incident {an incident is a situation that is non-routine or is anomalous and which poses a threat to the health and safety of on-site/off-site facility personnel or the public, or which has potential to develop into such a threat}.

Officials of St. Louis and St. Charles County and the municipalities surrounding the West Lake landfill are aware of the possible occurrence of an emergency or situation that may requiring assistance. Depending upon the severity and magnitude of the situation, local resources may not be adequate to deal with every occurrence. It may be necessary to request assistance through volunteer organizations, the private sector, mutual aid agreements, or state and federal sources. To this end, EPA Region 7, Emergency Response and Removal Branch can assist the State and Local authorities in responding to a release of radiation or a release of mixed hazardous substances and radioactive materials. Region 7 operates a 24-hour spill reporting line (913.281.0991) staffed by a Duty Officer. The Duty Officer analyzes reports to determine if an EPA OSC, should respond to the spill or release and/or coordinate with local and state officials.

The EPA response to a spill of radioactive or mixed material would likely include the deployment of at least one OSC and our Superfund Technical Assessment Response Team (START) contractor to provide assistance to the local incident commander. The Region 7 START contract is currently held by Tetra Tech and Seagull Environmental with personnel located in the St. Louis area. The START is able to subcontract laboratory analytical services for both mixed waste and radioactive materials. For cleanup or building decontamination operations, EPA Region 7 has the contract services of our Emergency and Rapid Response Services (ERRS) contractor – currently Environmental Restoration of Fenton, Missouri. ERRS has access to cleanup personnel as well as a wide array of heavy equipment. Outside of Region 7, EPA has access to radiation emergency response assets in the other nine EPA Regions as well.

EPA OSCs and contractors could be in St. Louis and St. Charles Counties within 1-4 hours depending on deployment status and location at any given time. EPA Special Teams (RERT, ERT, and CMAT) could be available remotely immediately and on the ground within 48-72 hours dependent on their home office location. Likely initial EPA response actions would include, but not be limited to:
· Deploy OSCs, contractors, and ASPECT.
· Coordinate and establish an air monitoring and sampling plan.
· Provide recommendations on Protective Action Guidelines and decisions.
· Assist in identifying protective actions including shelter-in-place, evacuation, relocation, ingestion pathway, and environmental impact (sampling plan).
· Assist local and state agencies with initial monitoring.
· Assist in identifying critical resources that are available or lacking within the impacted area, region, or state which can be brought to bear on the response.

Note: These services will be provided to support the affected state or states. As a general rule, during the initial stages of the incident local and state officials

should be prepared to handle the crisis without federal assistance. Contamination screening and decontamination of people impacted by the incident are accomplished locally and are the responsibility of state, tribal, and local governments. Federal resources are provided at the request of, and in support of, the affected state or states.